

## Description

# METHOD, PRODUCT, AND APPARATUS FOR RESOURCE IDENTIFIER REGISTRATION AND AFTERMARKET SERVICES

### CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation application of U.S. Patent Application Ser. No. 09/683,481 filed January 5, 2002, by Schneider, <sup>now abandoned,</sup> which also claims the benefit of U.S. Patent Application Ser. No. 09/682,351 filed August 23, 2001, by Schneider, <sup>now abandoned,</sup> which claims the benefit of U.S. Patent Application Ser. No. 09/682,133 filed July 25, 2001, by Schneider, <sup>still pending,</sup> which claims the benefit of U.S. Patent Application Ser. No. 09/525,350 filed March 15, 2000, by Schneider, <sup>now US Pat. 6,338,082,</sup> and claims the benefit of U.S. Patent Application Ser. No. 09/653,100 filed August 31, 2000, by Schneider, <sup>now US pat. 6,760,746,</sup> and claims the benefit of U.S. Patent Application Ser. No. 09/650,827 filed August 30, 2000, by

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now US Pat. 6,901,436,  
Schneider, and claims the benefit of U.S. Patent Applica-  
tion Ser. No. 09/598,134 filed June 21, 2000, by Schnei-  
der, now US Pat. 6,895,430  
and claims the benefit of U.S. Patent Application Ser.  
No. 09/532,500 filed March 21, 2000, by Schneider, still pending,  
which claims the benefit of U.S. Patent Application Ser.  
No. 09/525,350 filed March 15, 2000, by Schneider, now  
U.S. Patent 6,338,082 which claims the benefit of U.S.  
Provisional Application Ser. No. 60/175,825 filed January  
13, 2000, by Schneider, now abandoned, U.S. Provisional  
Application Ser. No. 60/160,125 filed October 18, 1999,  
by Schneider, now abandoned, U.S. Provisional Application  
Ser. No. 60/157,075 filed October 1, 1999, by Schneider,  
now abandoned, U.S. Provisional Application Ser. No.  
60/130,136 filed April 20, 1999, by Schneider, now aban-  
doned, and U.S. Provisional Application Ser. No.  
60/125,531 filed March 22, 1999, by Schneider, now  
abandoned.

## BACKGROUND OF INVENTION

## FIELD OF THE INVENTION

[0002] This invention generally relates to processing a request from a resource identifier, and more specifically relates to a method, product, and apparatus for resource identifier

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of name servers that the registrar has registered.

[0019] Domain name registration for a given NIC authority can be accessed by a TCP/IP application called WHOIS, which queries a NIC database to find the name of network and system administrators, system and network points-of-contact, and other individuals who are registered in appropriate databases. Domain names are identifiers used for both accessing a resource and retrieving contact information of the registrant or domain name holder of that resource. The availability of a domain name from a NIC authority for a given TLD is determined by submitting a WHOIS request. If there are no matches in the database then the domain name may be available for registration. Regional WHOIS registries are maintained by NSI and ARIN (American Registry for Internet Numbers) located in the U.S., APNIC (Asia-Pacific Network Information Center) located in Australia, and RIPE NCC located in the Netherlands. Domain name resolution is determined by resolving a query in the DNS and domain name availability is determined by using the RRP, EPP, or WHOIS service to query an appropriate NIC database.

[0020] U.S. Patent Application Ser. No. 09/440,606 filed November 15, 1999, by Schneider <sup>now US Pat. 6,442,549,</sup> and U.S. Patent Application

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Ser. No. 09/598,134 filed June 21, 2000, <sup>now US Pat. 6,895,430</sup> by Schneider both show that domain names which are soon to be available may be distributed in advance to a user so that domain names of interest may be selected and reserved in a preordering queue on either the client or server side. Registration information is completed and a registration form is submitted to or by a registrar when the soon to be available domain name that is selected does become available for registration. The date of the first domain name to ever become newly available to the public due to failure to pay a renewal fee was in September 1997. However, U.S. Patent No. 5,987,464 filed July 25, 1997 by Schneider (parent application to Ser. No. 09/440,606) states that delivery and updating methods are applicable to the renewed availability of domain name related information solving a need several months before the need became evident.

[0021] There are more than 30 million domain names that have been registered under .com, .net, and .org. Only about ten percent of these are in active use. Registrations for the remaining millions of names, many of which are highly valuable, are returning to availability at the rate of more than 800,000 per month. Currently, Snapnames.com, Inc.

whether registrant information and/or aftermarket status from at least a portion of the identifier is to be retrieved. If so, then registrant information and/or aftermarket information including identifier status can be retrieved/received in step 835 from at least a portion and/or variant of the identifier. It can then be determined in step 840 whether results are provided from the received information. When results are not provided, such received information can be stored, cached, archived, and/or forwarded in step 845. When results are provided (step 840), then such results can be combined in step 850 with content accessed from the network resource.

[0159] As explained in U.S. Patent Application Ser. No. 09/650,827 filed August 30, 2000, <sup>now US Pat. 6,901,436</sup> by Schneider, the availability of an identifier such as a domain name may be determined across other naming systems such as a keyword registry 168 (or vice-versa) operated by a resolution service provider (e.g., RealNames or Netword) or operated by the search services of a portal web site or the like (e.g., Alta Vista, Lycos, Netscape, AOL, etc.) or by any other entity that registers keywords for the purpose of directory placement or advertising. For instance, the search for the availability of a RealNames Internet Keyword called "exam-

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trant to choose from. Keywords or descriptors including identifiers representative of competitive interests may be provided 940 by the registrant/subscriber to be put in a watch list 187 to inform the subscriber of any available identifiers that may become available in the future. Such descriptors may also include any geographic, psychographic, and/or demographic information or those words that may be used to inform the subscriber of identifiers of interest to competitors. In addition, such descriptors or keywords may be suggested through the registration form 177 by accessing a link 945 which generates similar identifiers to help the subscriber select a desirable watch list/subscriber profile 187. Such registrant/subscriber information may be submitted to a registration provider of choice at any time.

[0168] As explained in U.S. Patent Application Ser. No. 09/598,134 filed June 21, 2000, <sup>now US Pat. 6,895,430</sup> by Schneider, registrant contact information such as the WHOIS record of a domain name registrant can be modified to provide additional results including metalinks. For instance, when it is determined that a domain name is not available for registration, a record from the WHOIS database may be displayed including metalinks for accessing <META> tag informa-

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names", a system can be integrated to process both registration requests and resolution requests of valid and fictitious domain names. Furthermore, as explained in U.S. Patent Application Ser. No. 09/525,350 filed March 15, 2000, <sup>now US Pat. 6,338,082</sup> by Schneider, entitled "Method, product, and apparatus for requesting a network resource" and U.S. Patent Application Ser. No. 09/532,500 filed March 21, 2000, by Schneider, <sup>still pending,</sup> entitled "Fictitious domain name method, product, and apparatus", an autosearch can be used to process registration requests or resolution requests of valid domain names and fictitious domain names.

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[0178] Domain names offered by traditional domain name registries have been restricted to the ASCII character set: A to Z, a to z, 0 to 9, and hyphen. In addition, the maximum character length of a SLD is 63 characters. Any domain name that is not valid (e.g., SLD is greater than 63 characters, characters other than that of A to Z, a to z, 0 to 9, and hyphen, and/or non-ASCII character sets used to represent multilingual domain names) or any domain name having a domain alias such as a TLDA is called a fictitious domain name (FDN). Valid International Domain Names (VIDNs), Fictitious International Domain Names (FIDNs), Zip Code Domain Names, Numeric Domain Names (NDNs)

property either before, during or in response to an event such as a reference request, search request, navigation request, and the like. The extracted domain name can be passed as a parameter for retrieving contact and/or status information from a corresponding registry such as an aftermarket registry 166, auction registry 164, back-order registry 160, or any domain name status database 199, or identifier status cache 197.

[0202] Methods for notifying a user of soon to be available domain names are explained in U.S. Patent Application Ser. No. 09/598,134 filed June 21, 2000, <sup>now US Pat. 6,895,430</sup> by Schneider, entitled "Method and apparatus for integrating resolution services, registration services, and search services." Domain names that are soon to be available may be distributed in advance to a user so that domain names of interest may be selected and reserved in a pre-ordering queue on either the client or server side. Registration information is completed and a registration form is submitted to or by a registrar when the soon to be available domain name that is selected does become available. In turn, an ExpiryCountdown Object 1350 which can be a subclass of the WHOIS object 1330, AfterMarket Object 1340, or BackOrder Object 1345 can be used while navigating

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caption text. Upon identifier generation, identifier status may be performed including the determination of whether such generated identifiers may be available for registration, back-order, and auction, (e.g., keywords, FDNs, VDNs, MDNs, telephone numbers, etc). When a registration request is performed, for example, all such generated identifiers that are available for registration/back-order may be simultaneously registered/ordered with respect to the naming systems of all the selected identifiers. Simultaneous registration of identifiers across naming systems is explained in U.S. Provisional Application Ser. No.

60/175,825 filed January 13, 2000, by Schneider, and U.S. Patent Application Ser. No. 09/650,827 filed August 30, 2000, <sup>now US Pat. 6,901,436</sup> by Schneider.

[0214] By applying this method to an interactive television application, a viewer may select a list box for display. Upon display, all identifiers that have an available status, for example, may be dynamically populated within the selected list box as a hyperlink reference for each available identifier to access registration/back-order services. In effect, available identifiers may be generated across multiple naming systems in response to real-time data streams and pushed across various media to help users

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When metalinks are to be integrated then at least one metalink may be generated in step 1620 and included with any search results as a result of processing the search request in step 1625. Such metalinks may access any permutation of the following; URI of the domain name, WHOIS of the domain name, page source of the URI, HEAD request of URI, sitemap of URI, e-mail of URI, dial request for URI, geographic map of URI with directions, and domain name status or the like. Domain name status may indicate whether the domain name is available for back-order, sale, license, or lease by the registrant or through an auction and/or listing service. If metalinks are not integrated, then search request may be immediately processed in step 1625 without including such metalinks. Autosearch templates 172 may be used to generate such metalinks, for example.

[0222] As explained in U.S. Patent Application Ser. No. 09/598,134 filed June 21, 2000, <sup>now US Pat. 6,895,430</sup> by Schneider, entitled "Method and apparatus for integrating resolution services, registration services, and search services", identifier prefixes may be used as a command language by entering such a prefix in conjunction with an identifier and/or other parameters into a user interface element such as a

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